ABSTRACT

To decrease the number of arithmetical operations in a
filtering process for decoding a digital signal and reduce
a cost required for decoding. A filtering method for use in
decoding a digital signal from a frequency domain to a time
domain includes: a first step of multiplying an input data
stream and a transformation matrix that is decomposed into
a sparse matrix from an inverse MDCT transformation matrix
for making the inverse MDCT transformation of the input data
stream composed of a plurality of data blocks, and has a smaller
size than the inverse MDCT transformation matrix, to acquire
an output data stream composed of a plurality of data blocks;
a second step of storing predetermined data contained in each
data block of the output data stream; and a third step of
generating the digital signal in the time domain on the basis
of each data block acquired at the first step and the
predetermined data stored at the second step in processing
the former stage data block.